

FINAL

Former Naval Station Treasure Island Restoration Advisory Board (RAB) Meeting Minutes

Meeting 183 21 June 2016

MEETING MINUTES RESTORATION ADVISORY BOARD FORMER NAVAL STATION TREASURE ISLAND 21 June 2016 Meeting Number 183

Community Restoration Advisory Board (RAB) Members in attendance:

Nathan Brennan, John Gee, Becky Hogue, Alice Pilram (Community RAB Co-Chair), Dale Smith

Department of the Navy and Regulatory Agency RAB Members in attendance:

Keith Forman, Navy RAB Co-Chair

Ross Steenson, San Francisco Bay Regional Water Quality Control Board (Water Board)

Remedios [Medi] Sunga, California Department of Toxic Substances Control (DTSC)

Other Navy and Regulatory Staff and Consultant Representatives in attendance:

Bryce Bartelma, Navy
Louie Cardinale, Navy
Carrie Ross, Parsons

Dave Clark, Navy
Nathan Schumacher, DTSC
Yashekia Evans, Tetra Tech, Inc.
Tommie Jean Valmassy, Tetra

Katie Henry, Tetra Tech, Inc. Tech, Inc.

Mukesh Mehta, Navy Chris Yantos, Navy

Laura Leone, Tetra Tech, Inc.

Public Guests in attendance:

Bob Beck, Treasure Island
Development Authority (TIDA)
Erick Brown, Catholic Charities
CYO

Kathryn Lundgren, resident
Frank Niccoli
Tyler Christian Shively, resident
Melanie Williams, resident

Carol Harvey, journalist

Welcome Remarks and Agenda Review

Keith Forman (Base Realignment and Closure [BRAC] Environmental Coordinator [BEC]) opened the June 2016 RAB meeting for the Former Naval Station Treasure Island (NAVSTA TI), held at the Casa de la Vista (Building 271) on Treasure Island (TI). Mr. Forman introduced participants and reviewed the agenda (Attachment A), noting the RAB meetings will relocate to Building 1 in

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October and pointing out designated times for community question and answer periods.

Old Business - RAB Minutes Approval

Minutes for meeting 182, April 2016, were presented for approval. John Gee (RAB member) and Dale Smith (RAB member) requested minor edits. The RAB voted to approve the minutes with the edits noted.

Old Business - BRAC Cleanup Team Update

Nathan Schumacher (DTSC Community Involvement Specialist) provided an update on some of the work DTSC has done since the last RAB meeting. DTSC commented on the revised Finding of Suitability to Transfer (FOST) 5, for Building 3, Site 21 and Site 27. DTSC also provided comments and added to the California Department of Public Health (CDPH) comments on the Site 6 Final Status Survey Report, Site 24 Remedial Design/Remedial Action Work Plan (RD/RAWP), 2016 Basewide Land Use Control Inspection Report, Final Site 31 Data Gap Investigation Work Plan, and the Site 21 and Site 27 Draft Covenant to Restrict the Use of Property.

Ross Steenson (Water Board) said the Water Board reviewed the Site 24 RD/RAWP, the Site 12 work plan, and FOST 5. He noted the Water Board does not typically review radiological documents.

New Business - Site 24 Former Dry Cleaning Plant Remedial Design and Removal Action

Mr. Forman introduced the presenters, Mukesh Mehta (Navy) and Carrie Ross (Parsons). Mr. Mehta, the project manager for Site 24, is a professional geologist (PG), certified engineering geologist (CEG) licensed in California, registered geologist (RG) licensed in Oregon, and licensed geologist (LG) in Washington state and has worked in the field for more than 25 years. Mr. Mehta introduced Ms. Ross as a professional engineer (PE) and project manager for Parsons.

Site 24 consists of 20 acres, including several vacant buildings that are planned to be demolished during redevelopment. Building 99 on Site 24 was a dry cleaning facility that was expanded and modified over the years, and dry-cleaning equipment was located at various points within the building. The Navy has conducted numerous investigations at Site 24 since the 1990s, which show that dry cleaning fluids were likely spilled or leaked in the area near Building 99, resulting in soil and groundwater contamination.

The Navy conducted highly successful, three-phase treatability study between 2003 and 2012. Vegetable oil and microorganisms were injected into the groundwater, where the microorganisms broke down large chlorinated solvent molecules into small, nontoxic molecules. This process, known as reductive

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dechlorination, reduced the chlorinated solvent contamination by 80 to 90 percent. Reductive dechlorination results in the eventual conversion of the main dry cleaning chlorinated solvent chemical tetrachloroethene (PCE) into ethene, which is nontoxic.

In 2015 a Proposed Plan/Draft Remedial Action Plan presented the Navy's preferred remedial alternatives for the remaining chlorinated solvents. The Navy's preferred remedial alternative was to excavate and remove the contaminated soil; and, perform groundwater treatment. In late 2015, the Record of Decision/Final Remedial Action Plan for the preferred remedial alternative was approved by DTSC and the Water Board. The remedy for Site 24 includes excavating the contaminated soil near Building 99 that is contaminating the groundwater and producing soil gas, and then treating the groundwater. The groundwater and soil gas will be monitored for 2 years after field work, plus an additional year to ensure cleanup goals continue to be met.

Ms. Ross said her team at Parsons will conduct a pre-design site characterization, which will include collecting soil and groundwater samples to identify the boundary of the excavation and the groundwater treatment. That characterization data will be presented to the regulatory agencies to finalize the actual boundary of the areas to be treated in the remedial action.

The remedial action will include excavation of soil in two areas, and groundwater will be treated in three areas using injections similar to the treatability study previously conducted. The injections will be conducted with the micro zero-valent iron (ZVI) and in situ bioremediation (ISB) direct injection points that will extend down to 38 feet below ground surface (bgs). In addition, the remedial action requires a monitoring phase that involves baseline groundwater and soil gas monitoring before the excavation and groundwater treatment. After the remedial action, Parsons will conduct quarterly performance monitoring for 1 year. After the quarterly monitoring, an additional year of monitoring will be conducted to ensure the cleanup goals continue to be met according to California regulations.

Ms. Ross reviewed the current site status. In 2015, soil gas monitoring was conducted and 50 samples were collected. The results indicated that concentrations of PCE were above cleanup levels in 11 wells, concentrations of trichloroethene (TCE) were above cleanup levels in three wells, dichloroethene (DCE) was below cleanup levels in all wells, and vinyl chloride was not reported in any of the soil gas samples. These samples delineated the contamination and provide a good idea of the location requiring remediation. In addition, 36 groundwater samples were collected in 2015 and analyzed for contaminants of concern. PCE was not reported in any of the samples, but TCE and DCE were each above cleanup levels in two wells, and vinyl chloride was above cleanup

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levels in five wells. The groundwater contamination is between 7 and 38 feet bgs.

Seventeen locations have been identified near the highest concentrations of contaminants in soil for the pre-design site characterization. Two soil samples ranging from 0 to 7 feet bgs will be collected at each of the 17 locations. Twelve primary locations have been identified for groundwater sampling. These samples will be collected in between existing wells, surrounding the three plumes. Four samples will be collected at each of the 12 locations, ranging from 7 to 38 feet bgs.

Based on the existing soil gas, soil, and groundwater data, two areas for excavation have been identified: Area 99A and Area 99B, shown on slide 26 of Attachment B, around Building 99. The excavation will dig down to the groundwater level at around 7 feet bgs, and Parsons is anticipating about 1,600 cubic yards of soil to be removed. Confirmation samples will be collected from the sidewalls and bottom of the excavation, and the soil will be transported off site for disposal once the confirmation samples are deemed clean. Then the excavation will be backfilled with clean soil.

Ms. Ross reviewed the project schedule. The RD/RAWP will be finalized in August, followed by site preparation in September. Preliminary soil and groundwater characterization and, the baseline groundwater and soil gas monitoring will be conducted in September. Soil excavation will begin in November. The groundwater treatment is planned for January through February 2017, and the quarterly groundwater and soil gas monitoring will begin in February. Parsons will be off site by March 2017.

Mr. Forman opened the floor for questions to RAB members. Alice Pilram (RAB co-chair) asked if rain will affect the work, since most of the work will be done in the winter. Ms. Ross said it should not affect the schedule. It will not have any impact to the groundwater treatment. Dewatering is planned for the open excavations if they are left open during a rain event, and the team will use best management practices for stormwater containment.

Mr. Gee asked if the groundwater is fresh water or a mixture of fresh and salt water and how the volume of flow will be controlled within the freshwater aquifer. Ms. Ross said it is likely brackish water and water will be used from existing wells within each plume to minimize plume displacement as part of the injections. Based on the previous treatability study, this use of groundwater will not create a substantial migration of water out of the site. Mr. Steenson added that the groundwater flow rate is very low at Site 24.

Mr. Gee asked about the fate of ethene gas once the treatability process is complete and whether it off-gases through the soil. Ms. Ross answered that the

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ethene will volatilize over time and very slowly off-gas as a harmless gas. Mr. Forman invited Ms. Ross to provide a written answer about the implications of ethene gas. (There will be a handout addressing this issue.)

Ms. Smith asked how a cleanup plan can be developed with groundwater statistics from 2015 from a document that has not been approved and released. Ms. Ross said the purpose of the site characterization phase of the project is to confirm exactly where the water needs to be treated. She added that the Navy has the validated results for the September 2015 groundwater data. Dave Clark (Navy) said the 2015 draft groundwater monitoring report will be released in July 2016 so the regulatory agencies will have the 2015 groundwater sampling data before they review the RD/RAWP for Site 24.

Ms. Smith said it has been previously discussed that the contamination source is beneath Building 99 and there has been extensive discussion about shoring and the stability of the building during remediation. She asked how the source of the contamination will be addressed if there will not be any excavation under the building. Ms. Ross said that there are preliminary samples within Building 99 and the Navy will step out 20 feet and excavate within the building if results are above screening levels. The team will excavate a series of trenches after the concrete floor of the building has been removed. The structural integrity of Building 99 will be maintained using information gathered during predesign geotechnical testing.

Ms. Smith asked about the estimated radius of influence for the injections. Ms. Ross said it is about a 7.5 feet radius and confirmed that there will be overlap between injection sites. Ms. Smith asked if rain water will be properly disposed of if it enters the injection holes. Ms. Ross confirmed that the water will be held in drums, containerized, sampled, and taken off site.

Melanie Williams (resident) said she has been living on TI for 18 years, and requested that when new people working on the project are present at the meetings, she would like to know more about them and have them make an effort to get to know the residents so the residents feel confident that the water will be cleaned.

Kathryn Lundgren (resident) asked how the chemicals from this building ended up in the soil and if it was because of inappropriate disposal. She also asked for the scientific name of the microorganisms used in the injection process. Ms. Lundgren also requested a specific timeline (in numbers) for how long the process takes to go from PCE to ethene.

Ms. Ross explained that underground storage tanks (USTs) were used to store the solvents. Over time, the tanks leak. In addition, piping may have leaked, Final Treasure Island Restoration Advisory Board Meeting Minutes, 21 June 2016 Page 6 of 10

causing the dry-cleaning solvents to enter the groundwater and soil. Mr. Forman added that the dry cleaning plant USTs, used in the 1940s through about 1972, were not built to current standards, and they almost universally leaked, as did the piping. In addition, from research about the site, the tanks were moved to three different locations within Site 24 during operations over the decades. The cumulative leaking over 30 years led to the contamination originally found prior to the treatability studies. Ms. Sunga added that some of the dry cleaning sites she has worked on disposed of filters in the back yard, where solvent leaked into the ground. Even without USTs, many dry cleaning sites are contaminated by improper storage of used filters.

Mr. Mehta said the microorganisms used are called Dehalococcoides. Mr. Forman said that these microorganisms are commonly used for this process, which has been effectively used at many sites across the country.

Louie Cardinale (Navy) said that only a small area needs to be treated when compared with 2003. Mr. Forman continued that there has already been 80 to 90 percent reduction of the original footprint of the contaminants. The iron in ZVI works almost instantaneously in its reaction as soon as there is an interface between the iron and the actual contaminant. It then takes longer for the Dehalococcoides to multiply and start "eating" the contaminant over time. This process typically happens in a period of months, which is why there will be quarterly monitoring. There should be significant progress observed over the 2 years of quarterly monitoring. Ms. Sunga added that the degradation of PCE to vinyl chloride is much faster than the conversion of vinyl chloride to ethene. This difference is why there is still vinyl chloride and the Navy has to continue treatment to reach ethene.

Tyler Christian Shively (community member) suggested that the Navy take blueprints from the World's Fair and see how the original layout pertains to current conditions. Mr. Forman said the Navy has reviewed all the blueprints from the 1930s from the building of the island to the blueprints for the buildings that were built for the Golden Gate International Exposition (also known as the World's Fair).

Carol Harvey (journalist) said she would also like more information about the staff working on these cleanup projects. She requested that anyone presenting in a RAB meeting talk about their background, education, and why they became interested in this work.

Ms. Harvey asked why the contamination from Building 99 was allowed to go so long and get so far before any attempt was made to clean it. She asked why the Navy would not tear down the building before the work is done, since it will be torn down for redevelopment anyway.

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Mr. Forman said it is likely that there was continuous leaking from the USTs at Site 24 over multiple periods, which means there were multiple and possibly ongoing small releases of dry-cleaning solvent, as happens often with USTs and associated piping. A small leak underground could go unnoticed for some time. Over the years, there would be more or less continuous leaking from filling and refilling the tank. In addition, the contamination is invisible to people who work in the building and to people outside unless there is equipment to sample for it, so the Navy was likely not aware of the leaking and contamination. Multiple ongoing spills over decades is why the plumes are so large, which is common in dry cleaning sites. The good news is that the treatability studies drastically reduced the contamination. Mr. Forman said that tearing down buildings is expensive, involves a lot of preparation, and is not required to complete the remediation. As the Navy has a limited budget, the money needs to be spent in the most effective way possible. It is the Navy's policy to tear down buildings only as necessary to satisfy the environmental cleanup requirements dictated by California and federal laws.

Ms. Harvey asked about the size of the "bugs" referred to as Dehalococcoides and what happens to them after the contamination is consumed. Mr. Forman said they are visible only under a microscope and their populations will diminish when the contamination, which serves as a food source, has been consumed.

New Business - Document Tracking Sheet and Field Schedule

Mr. Clark provided a handout with photos of Site 12 field work (Attachment C). He also presented the Document Tracking Sheet (DTS) (Attachment D). Documents highlighted in gray mean the documents are completed and will move off the tracking sheet in the next version. Documents highlighted in yellow will be issued draft or final within the next 60 days. Comments are due on the draft for documents highlighted in blue in the next 60 days. Mr. Clark also reviewed the Field Schedule (Attachment E). Field work highlighted in yellow will be started or finished within the next 60 days. Upcoming field work will be conducted at Sites 6, 12, 24, and 31. In addition, there will be sampling from a barge at Site YF3 and there will be well decommissioning in the fall at Treasure Island.

New Business - Co-Chair Announcements and Future Agenda Items

Ms. Pilram said she would like a site tour for RAB members the hour prior to the August 2016 meeting at Casa de la Vista at 6 p.m. Mr. Forman confirmed the Navy is planning to conduct the annual tour again.

Community Question and Answer Period

Ms. Smith asked about upcoming meeting agenda topics. Ms. Pilram asked if there are future agenda items that Ms. Smith would like covered. Ms. Smith noted the YF3 report is being issued on August 10, 2016, and requested a

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presentation at the August RAB meeting while the comment period is still open. Mr. Forman confirmed the Navy received that comment and that the August RAB meeting will be a good time for the YF3 presentation. Ms. Smith suggested having a geologist for the YF3 presentation, and Mr. Forman acknowledged the suggestion.

Ms. Lundgren asked how many tanks are present or were present before this work at Site 24 was started. Ms. Ross answered there were three 1,000-gallon solvent USTs. Ms. Lundgren said that cleanup goals are mentioned in the meetings but are not listed in the presentations or materials that the public is allowed to take home with them. She would like those cleanup goals listed in presentations.

Ms. Lundgren said she is concerned about geese swimming in the water of open excavations. She is also concerned about the laydown pads in Site 12. The way they are staged is allowing water to run off during rain and wind into the surrounding soil. Mr. Forman said that the lay-down pads follow best management practices, which take into account storm water runoff from rain, precipitation, and drainage. They also take into account erosion and containing the material within the pad. Mr. Forman also mentioned that the pads are periodically inspected by State of California regulators. There will be another site inspection on June 22, 2016 (the day after the meeting). There have been no complaints to date about the organization of the pads and the maintenance on the pads during Mr. Yantos' project.

Ms. Lundgren said the green cloths that are placed around the fences are ripped to shreds, allowing dust to spread. Mr. Forman responded that the green cloth serves no other purpose than forming a privacy screen, and is commonly used at construction sites. The green privacy screen is not a method for collecting dust. The condition of the screen has nothing to do with any regulations that pertain to protecting the workers on site and protecting the perimeter.

Ms. Lundgren said she previously asked at a meeting if she lives on top of dioxin. The Navy said there are subsurface dioxins in that general area, but there is no complete exposure pathway. Ms. Lundgren feels the Navy cannot guarantee the dioxin is not reaching people, and wants to know when the Navy will take action to move people out of that area. Mr. Forman indicated that the Navy completes projects in phases as a function of contracting. The work in the northern section of Site 12 that Ms. Lundgren was referring to will take place in the 2018-2019 time frame. There is a lot of data for the site — more than 31,000 samples over 2,000 locations within the approximately 95 acres of Site 12. The Navy will likely do what has been done on other projects: use sample measurements and excavate the contaminants. Until the subsurface contaminants

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are removed, they do not pose a risk to anyone living at, working on, or visiting TI.

Ms. Harvey asked about the geese that Ms. Lundgren mentioned, as they can spread contamination. She has also photographed what she believes are geese skeletons. Mr. Forman responded that the soil and groundwater on the island have been tested and there is a basewide groundwater monitoring program. Regarding the geese skeletons, not enough details have been provided to comment on it. There is no indication that there is any poisoned body of water on the island, and the Navy has a large body of data over a long period of time that support that statement.

Ms. Harvey said she believes people are getting ill from living on TI. Mr. Forman said the City of San Francisco representatives and the regulators know that the Navy has taken extraordinary efforts to go over and above what is required by any laws to minimize inconvenience and maximize the protectiveness of the way work is conducted site. The Navy has an excellent dust control program, truck traffic is monitored, and the Navy believes everything it has in place is providing a protective, safe environment while doing environmental cleanup, and the regulatory agencies providing oversight agree.

Mr. Forman said the Navy was asked by the housing provider to talk with the residents at Building 1126 on Reeves Court to provide details about the environmental program. The Navy and Bob Beck (TIDA) had a 2.5-hour meeting with the residents. The Navy answered specific questions, and many of the residents stated things were much clearer as a result. The work on Building 1126 will be done at the end of 2017, as it is not part of the time-critical removal action. There is not yet a contract in place for that work, and the Navy will work closely with Mr. Beck and the appropriate housing providers to meet the resident needs and housing program needs.

Closing Remarks

Mr. Forman thanked everyone for attending. The next RAB meeting will be Tuesday, August 16, 2016, at the Casa de la Vista. The meeting was adjourned at 9:09 p.m.

Action Items

#	Action Item	Due Date	Status
1.	Provide a Site YF3 Presentation	During 2016	Pending

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21 June 2016 RAB Meeting Handouts

- Attachment A: NAVSTA TI RAB Meeting No. 183 Agenda
- Attachment B: Remedial Design and Remedial Action at Site 24
- Attachment C: Site 12 Field Work Update: Westside/Bayside/North Point
- Attachment D: Document Tracking Sheet
- Attachment E: Field Schedule

AGENDA

NAVAL STATION TREASURE ISLAND ENVIRONMENTAL RESTORATION ADVISORY BOARD MEETING

Tuesday, 21 June 2016

Casa de la Vista Building 271, Treasure Island MEETING NO. 183

I. WELCOME REMARKS AND AGENDA REVIEW

7:00 – 7:05 Welcome, Introductions

Lead: Keith Forman, Navy Co-Chair

7:05 - 7:10 Agenda Review

Lead: Alice Pilram, Community Co-Chair

II. OLD BUSINESS

7:10 -7:15 RAB meeting Minutes Approval Meeting 182

Lead: Keith Forman, Navy Co-Chair

7:15 – 7:25 BRAC Cleanup Team Update

Leads: DTSC and Water Board

III. NEW BUSINESS

7:25 – 8:25 Site 24 Remedial Design/Remedial Action Work Plan

Leads: Mukesh Mehta, Navy and Carrie Ross, Parsons

Presentation Q&A: RAB

Presentation Q&A: Community

8:25 – 8:35 Document Tracking Sheet and Upcoming Field Work

Schedule

Lead: Dave Clark

8:35 – 8:45 Co-Chair Announcements and Future Agenda Items

Leads: Alice Pilram and Keith Forman

IV. COMMENTS ON NON-AGENDA ITEMS

8:45 – 9:00 Community Question and Answer Period

Lead: Keith Forman, Navy Co-Chair

9:00 Adjourn

Next Regular Meeting: No July 2016 Meeting

7:00 pm Tuesday, 16 August, 2016 location Casa

de la Vist

Next Treasure Island Citizen's Advisory Board (CAB) Meeting: See the web site for latest dates and times for future meetings: www.sftreasureisland.org

Next Interim RAB Community Member Conference Call: 7:00 p.m. Tuesday, 26 July 2016

Navy BRAC Web Site: http://www.bracpmo.navy.mil (click on map for Treasure Island)

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Director Navy BRAC PMO West 33000 Nixie Way Building 50, Attention Keith Forman San Diego, CA 92147

Keith Forman: (619) 524-6073

Local phone number (unchanged) (415) 308-1458



Remedial Design and Remedial Action at Site 24 Former Naval Station Treasure Island

June 2016 RAB Meeting

Mukesh H. Mehta, PE, CEG Project Manager Navy BRAC Carrie M. Ross, PE Project Manager Parsons

Site 24 Site Description and History



- Approximately 20 acres
- Contains 10 existing buildings
 - -Unused and vacant
 - -Includes Building 99, the former dry cleaning facility
 - Operated from 1942 through 1977
 - Expanded and modified over the years
 - Chlorinated solvents were used
 - -Soil and groundwater contamination





BRAC Program Management Office

6/21/2016 MM

Site 24 Proposed Future Land Use



- Majority of Site 24 is planned for open space (green)
- Residential area on the southern margin of Site 24 (orange)





BRAC Program Management Office

6/21/2016 MM

Previous Investigations



- 1992 Phase I Remedial Investigation
- 1994 to 1996 Phase II Remedial Investigation
- 1997 Building 99 Investigation
- 2005 Groundwater Investigation
- 2008 Remedial Investigation/Focused Feasibility Study
- 2011 Soil Gas Investigation
- 2014 Focused Feasibility Study Addendum

6/21/2016 MM

Previous Investigations (Continued)



- 2003 to 2012 Treatability Study
 - -Three phases of work over 10 years
 - -HIGHLY SUCCESSFUL
 - Injected harmless vegetable oil mixture with chemical eating bugs into groundwater
 - Reduced high concentrations of dry cleaning chemicals into non-toxic compounds in groundwater

BRAC Program Management Office

6/21/2016 MM

Dry Cleaning Fluid Breakdown

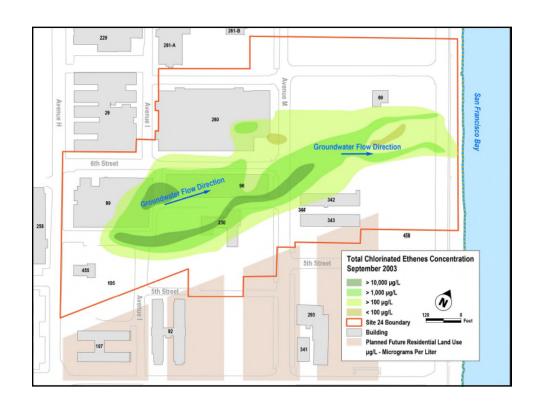


• Reductive dechlorination breakdown process:

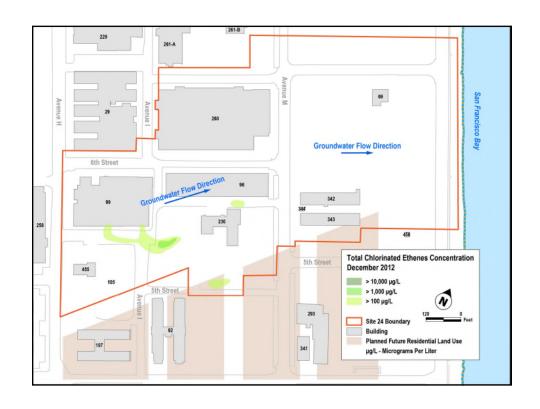


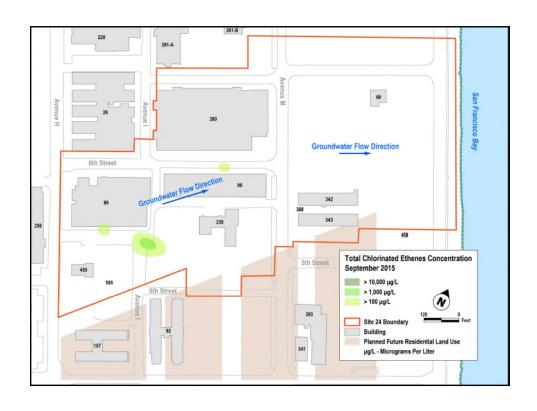
- Breaking down the biggest molecules to the smallest molecules
- •Vinyl chloride was <u>NOT DETECTED</u> in soil gas during the July 2015 sampling event
- Vinyl chloride is present in groundwater as a part of the breakdown process, but the presence of non toxic ethene in groundwater shows that complete breakdown is occurring
- Continued breakdown will lead to only non toxic end products

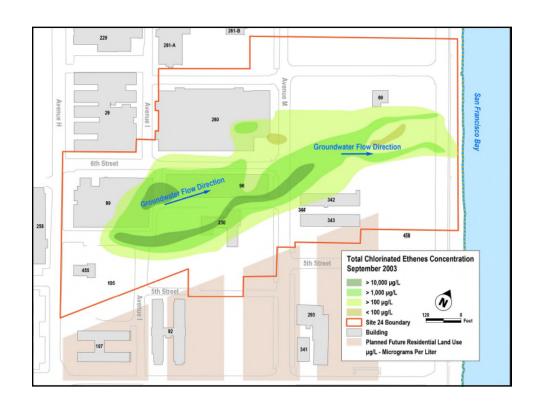
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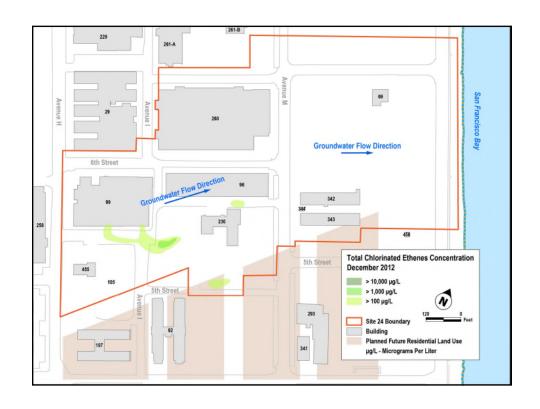


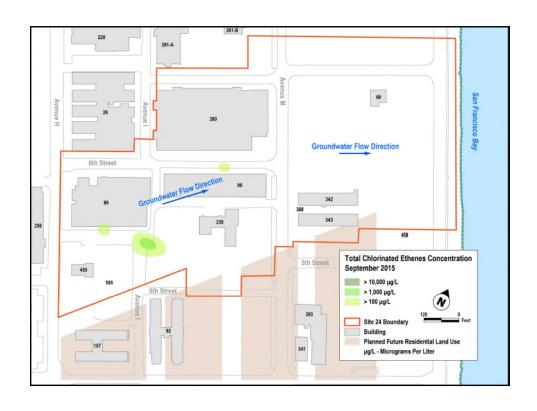












Previous Investigations (Continued)



- •2015 Proposed Plan/Draft Remedial Action Plan
 - -Presented remedial (cleanup) alternatives
 - -Excavate & remove contaminated soil
 - -Treatment of groundwater
- •2015 Record of Decision
 - -Approved by the Cal EPA (DTSC) and Water Board
 - -Soil / Groundwater Remedy selected:
 - Excavate and Remove soil at and near Building 99 that is contaminating groundwater or producing soil gas
 - Groundwater treatment to breakdown contaminants to non-toxic by-products
 - Monitor groundwater and soil gas (for 2 years of performance monitoring, plus 1 additional year to ensure cleanup goals continue to be met)

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Remedial Design/Remedial Action Approach



Pre-Design Site Characterization

- · Collect soil and groundwater samples
- Identify excavation area and groundwater treatment extent

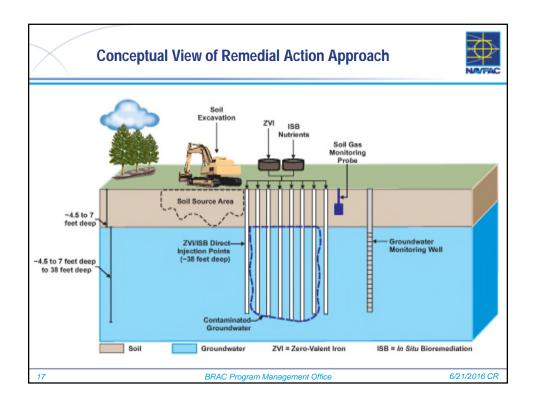
Remedial Action

- Excavate, remove, and dispose soil from two areas
- Groundwater treatment in three areas (injections)

Monitoring

- Baseline groundwater and soil gas monitoring
- Quarterly performance monitoring (2 years)
- Continued monitoring until cleanup goals are met
- At least 1 additional year to ensure cleanup goals continue to be met, according to California regulations

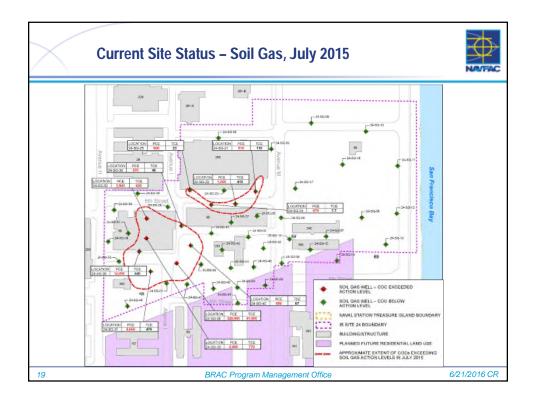
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Current Site Status – 2015 Soil Gas Monitoring



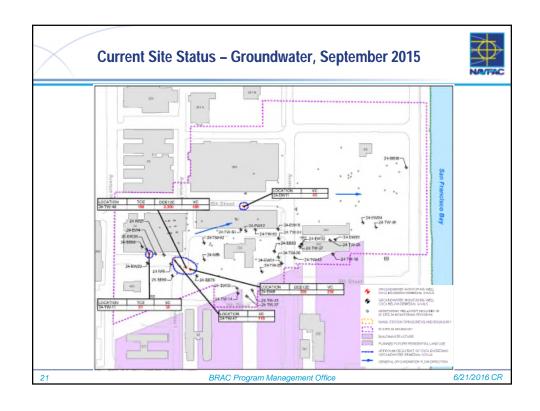
- •Sampled 50 soil gas wells
- •PCE above cleanup levels (11 wells)
- •TCE above cleanup levels (3 wells)
- •Cis-1,2-DCE below cleanup levels everywhere
- •Vinyl chloride not reported in any of the soil gas samples

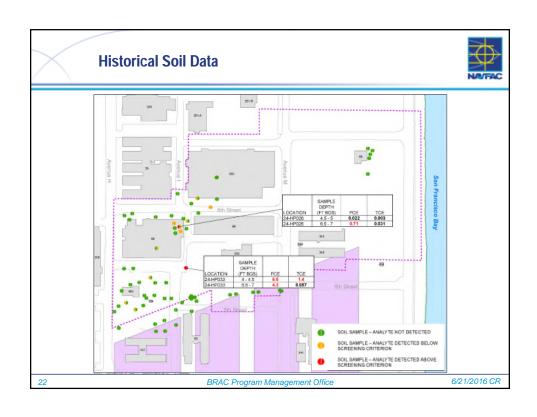


Current Site Status – 2015 Groundwater Sampling



- •Sampled 36 wells
- •PCE not reported in any samples
- •TCE above cleanup levels (2 wells)
- •Cis-1,2-DCE above cleanup levels (2 wells)
- •Vinyl chloride above cleanup levels (5 wells)





Defining the Soil Excavation Size



What?

-Define excavation size

How?

-Collect soil samples

Where?

- -17 locations near highest concentrations of contaminants in soil, groundwater, and soil gas
- -2 samples at each location

BRAC Program Management Office

6/21/2016 CR

Defining Groundwater Treatment Area



What?

-Confirm groundwater treatment area

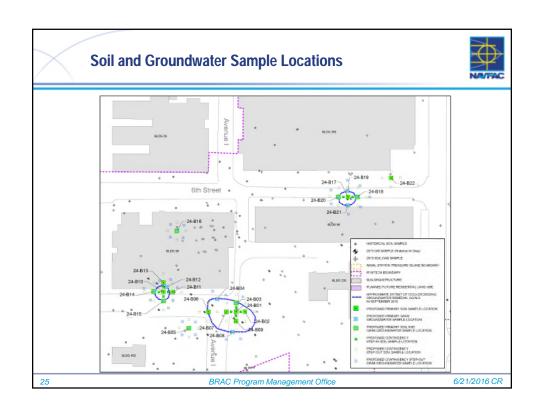
How?

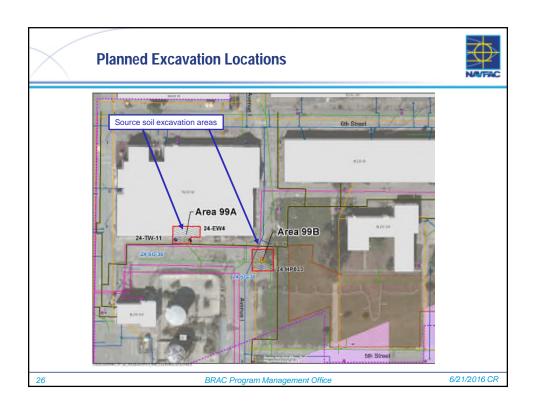
- -Collect groundwater samples
- -From temporary locations in between existing wells

Where?

- -12 locations surrounding the 3 plumes
- -4 samples at each location

6/21/2016 CR





Planned Soil Excavation Process

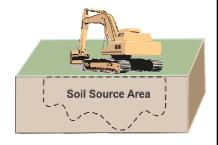


What?

-Remove contaminated soil

How?

- -Excavate ~1,600 cubic yards of soil
- -Collect confirmation samples
- -Send soil off-site for disposal
- -Backfill with clean soil



Where?

- Two areas near Building 99

BRAC Program Management Office

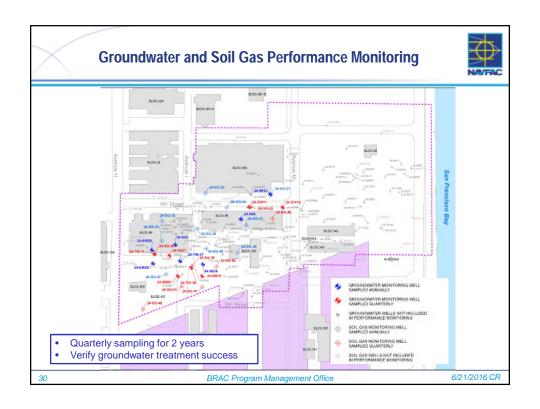
6/21/2016 CR

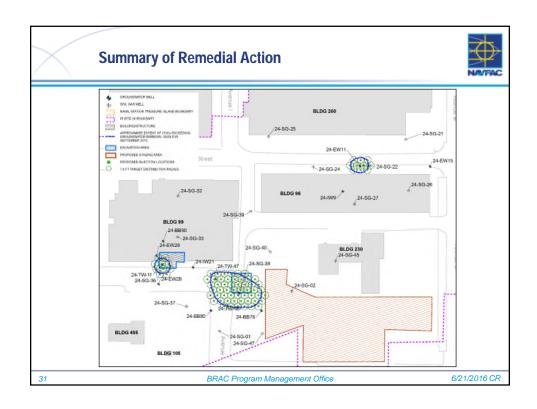
Planned Groundwater Treatment Areas



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Planned Groundwater Treatment Process What? -Encourage the dechlorination breakdown process of contaminants ISB Nutrients -Resulting in non-toxic end products How? -Chemical reaction by injecting an iron compound (ZVI) -Enhanced natural biological activity by injecting nutrients Where? ZVI/ISB Direct njection Points (~38 feet deep) -73 injection points -Three remaining groundwater plumes BRAC Program Management Office 6/21/2016 CR





Fieldwork Schedule



Date	Activity
August 2016	Remedial Design and Remedial Action Work Plan Finalized
	Arrive at Site, Site Preparation
eptember 2016	Preliminary Soil and Groundwater Characterization
	Baseline Groundwater and Soil Gas Monitoring
November to December 2016	Excavation (Digging, Sampling, Backfilling)
January to February 2017	Groundwater Treatment
February 2017	Quarterly Groundwater and Soil Gas Monitoring Begins
March 2017	Leave Site

Questions?





3 BRAC Program Management Office

6/21/2016 CR



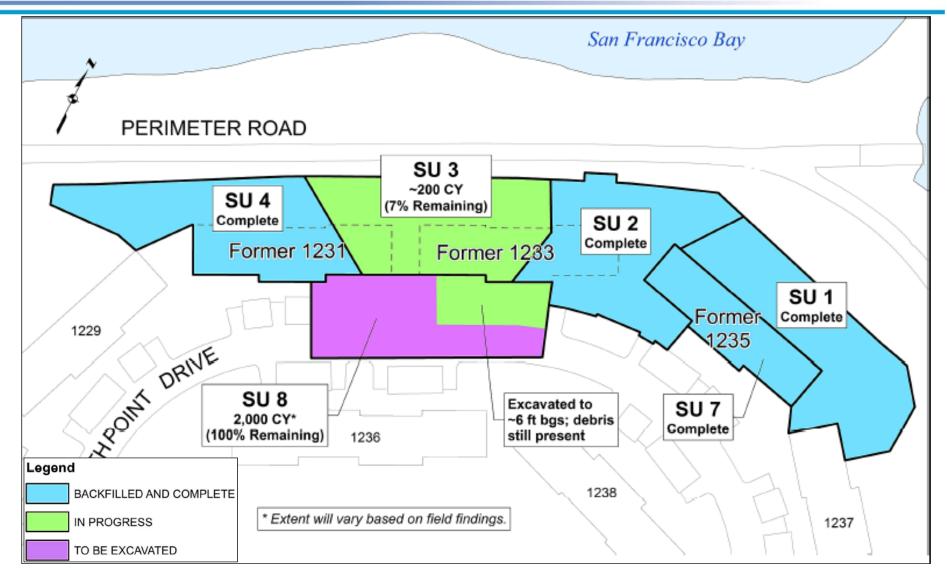
Site 12 Field Work Update Westside/ Bayside/ North Point

NAVAL STATION TREASURE ISLAND SAN FRANCISCO, CALIFORNIA

RAB Update June 21, 2016

Project Status: SWDA North Point





Project Status: SWDA North Point





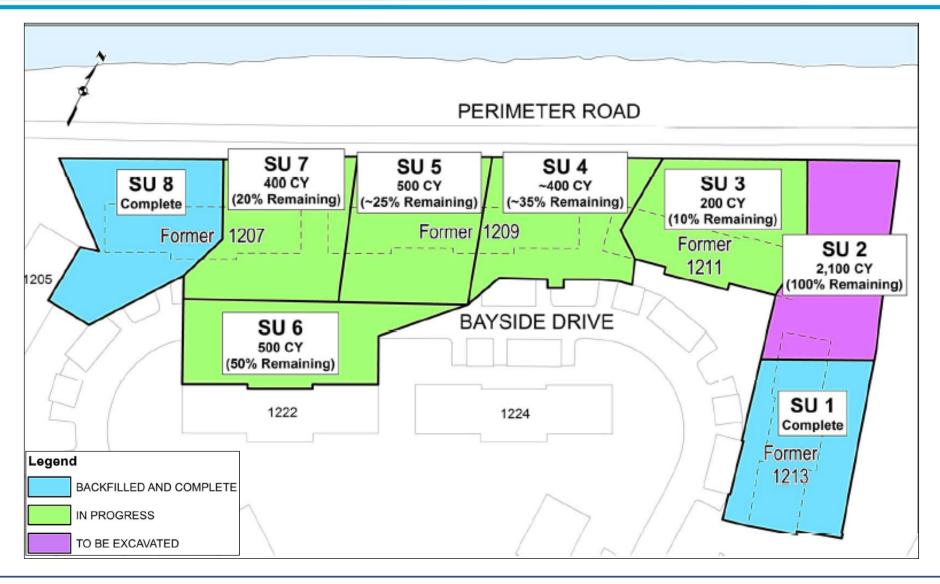


Backfill of SU 4

Placing demarcation layer (snow fence) in SU 4

Project Status: SWDA Bayside





NOTAC

Project Status: SWDA Bayside



Placement of clean rock in to bridge water in Bayside SU 8

Placement of clean fill and grading in Bayside SU 8

Project Status: SWDA Westside





What's Next?



- Removal of two building foundations at Westside
- Transport and disposal of waste
- Contract modification 5
 - 4,000 bcy to continue debris removal at North Point and Bayside
 - 1321 Deep Debris Area; two additional 6 inch lifts
- Site restoration



QUESTIONS?

Naval Station Treasure Island Environmental Cleanup Program Document Tracking Sheet June – November 2016

			DRAFT				ıc		FINAL								
				Agency Comments													
Item	Document Title & Information	CTO/DO	Draft to Agencies	•	Date Due	DTSC	Ð	CD	RAB	OTHER	Preliminar RTCs to Agencies		Resolve an Concur of RTCs		Final to Agencies	5	Comments
	Radiological Reports				-						-		=		-		
	Site 31 Data Gaps Investigation WP/SAP	-															
	RPM: Louie Cardinale	0014	01/06/16	>	02/23/16	~	Х	~	>		03/14/16	>	03/21/16	>	05/05/16	~	
	PM: Lora Battaglia, CB&I	0															
	Scoping Survey of Wastewater Lines																
1	Downstream from Former Bldg 233	9000	12/30/15	>	02/12/16	,	Х	,			03/28/16	,	06/17/16		06/30/16		
	RPM: Kimberly Noble PM: John Baur, Gilbane	ō															
	Scoping Survey Report for Wastewater Lines -						1										Navy and CDPH/DTSC are
	Force Main	2															informally addressing
2	RPM: Kimberly Noble	0012	05/19/16	>	06/17/16			Х			06/21/16		06/26/16		07/01/16		comments.
	PM: Lisa Bercik, CB&I																
	FSS Report for Historic Avenue N Storm Drain	2															
3	RPM: Kimberly Noble	0012	05/31/16	>	07/01/16						07/08/16		07/15/16		07/22/16		
	PM: John Hackett, CB&I																
	FSS Report for Building 233 Catch Basins	2															
4	RPM: Kimberly Noble	0012	06/15/16	~	07/15/16						07/22/16		07/29/16		08/03/16		
	PM: Lisa Bercik, CB&I																
	Site 30 Radiological WP/SAP Addendum	2															
	RPM: Louie Cardinale	0012	02/08/16	>	03/31/16	~	X	~			05/13/16	~	05/25/16	>	06/02/16	~	
	PM: Lisa Bercik, CB&I																
	FSS Report for Site 30/30N/30S	2									09/07/16						
5	RPM: Louie Cardinale	0012	07/25/16		08/24/16								09/19/16		09/30/16		
	PM: Lisa Bercik, CB&I						-							+			
	FSS Report for Site 31	4															
6	RPM: Louie Cardinale	0014	08/26/16		09/26/16						10/10/16		10/24/16		11/03/16		
	PM: Lora Battaglia, CB&I						ļ	\vdash	₩								
_	FSS Report for Site 6	52		~	0.1.15.11.1		١.,										
7	RPM: Louie Cardinale	0025	02/22/16		04/15/16	~	Х	~	~		05/20/16	~	07/29/16		08/17/16		
	PM: Shanti Montgomery, TtEC																
0	FSS Report for Site 24 (Building 342, Lot 69)	12	00/04/4/		00/00/1/						09/12/16		00/10/1/		00/0//1/		
8	RPM: Kimberly Noble	0012	08/01/16		08/29/16								09/19/16		09/26/16		
	PM: Lisa Bercik, CB&I FSS Report for Northeast Corner				}				H								
9	RPM: Kimberly Noble	0012	08/15/16		09/12/16						09/26/16		10/03/16		10/10/16		
7	PM: Lisa Bercik, CB&I	00	00/13/10		09/12/10						07/20/10				10/10/10		
	FSS Report for Site 20						+		+	+					 		
10	RPM: Kimberly Noble	0012	08/29/16		09/26/16						10/10/16		10/17/16		10/24/16		
	PM: Lisa Bercik, CB&I	00	00/27/10														
	FSS Report for Site 32A			Ħ			t			\top							
11	RPM: Kimberly Noble	9000	08/05/16										09/23/16		09/30/16		
	PM: John Baur, Gilbane	ŏ													2557.10		
	FSS Report for Site 32B																
12	RPM: TBD	TBD	TBD		TBD						TBD		TBD		TBD		
	PM: TBD	-															
	Site 6					•										•	
	RACR																
13	RPM: Bryce Bartelma	0003	09/22/16		10/24/16		1				11/21/16		12/19/16		01/13/17		
_	PM: Ted Tyler, CE2 Kleinfelder	ŏ					1										
	Site 12						-										
	TCRA WP						1										
14	RPM: Bryce Bartelma	9000	03/18/16	,	04/15/16	,	,	,	~	/	06/07/16	J	06/21/16		07/08/16		
1.4	PM: Ted Tyler, CE2 Kleinfelder	- 00	03/18/16	•	5 ./ 10/ 10						55, 57/10		55,21,10		37,00/10		
	ROD/RAP (non-SWDA, non-Radiological)						╁										
15	RPM: Bryce Bartelma	3208	08/02/16		09/02/16		1				09/30/16		10/24/16		11/21/16		
13	PM: Karen Miller, Helios	320	30/02/10		07/02/10		1				57/30/10		10/24/10		11/21/10		
	i ivi. Kareri ivillier, fiellus			ш			ш	ш		ш							

Naval Station Treasure Island Environmental Cleanup Program Document Tracking Sheet

June - November 2016

			DRAFT			RTC				FINAL		İ					
				Agency	omr	ner	nts										
Item	Document Title & Information	CTO/DO	Draft to Agencies		Date Due	DISC	WATER BOARD	TIDA/TICD	RAB	OTHER	Preliminary RTCs to Agencies		Resolve and Concur on RTCs	-	Final to Agencies	;	Comments
	Site 24																
	RD/RAWP																
16	RPM: Mukesh Mehta	0005	03/18/16	•	05/09/16	~	Х	~			06/10/16		08/12/16		09/01/16		
	PM: Carrie Ross, Parsons	0															İ
	Soil Gas Data Gaps Summary Report)															
17	RPM: Mukesh Mehta	0030	10/03/16		11/04/16						12/02/16		01/10/17		01/30/17		1
	PM: Patrick Hamner, Trevet	0															
	Site 32																
	ROD/RAP	3															
	RPM: Kimberly Noble	3208	12/22/15	•	03/02/16	~	~	~	,		03/24/16	~	03/28/16	~	04/14/16	~	
	PM: Karen Miller, Helios																
	Site YF3																
	Intertidal Area Data Gaps Investigation WP	3												10			
18	RPM: Mukesh Mehta	0103	08/11/16		09/10/16						09/24/16		10/08/16		10/20/16		1
	PM: Andrew Bullard, Battelle																
	Other Reports																
	Finding of Suitability to Transfer (FOST) 5										05/09/16	•					
19	RPM: John Hill	- 1	03/11/16	•	04/11/16	~	~	~					05/16/16	~	06/30/16		1
																	1
	2016 Basewide LUC Inspection Report	3															
20	RPM: Kimberly Noble	0058	03/23/16	•	04/22/16	~	Х	~	1		05/31/16	•	06/24/16		07/01/16		1
	PM: Jessica O'Sullivan, TriEco-Tt	Û															
	2015 Basewide GW Monitoring Report	4															1
21	RPM: Louie Cardinale	0004	07/20/16		08/17/16						08/31/16		09/26/16		10/14/16		i
	PM: Patrick Hamner, Trevet)															
	2016 Site Management Plan	ω															i
22	RPM: Kimberly Noble	0058	07/29/16		08/26/16						09/16/16		09/30/16		10/07/16		i
	PM: Jessica O'Sullivan, TriEco-Tt	J															
	Basewide Well Decomissioning WP	0013															i
23	RPM: Mukesh Mehta		08/01/16		09/22/16						09/24/16		09/26/16		09/30/16		
	PM: Art Gunter, TtEC																

- Production or review of document is complete. Abbreviations:
- Received notification of no comments or comments deferred to other agency.

Blue shading indicates agency review comments are due within the next 60 days or are outstanding.

Yellow shading indicates documents that will be issued draft or final within the next 60 days.

CTO/DO = Contract task order/delivery order

DTSC = Department of Toxic Substances Control

EPA = U.S. Environmental Protection Agency

FS = Feasibility study

FSS = Final status survey

LUC = Land use control

NA = Not applicable

NTCRA = Non-time critical removal action

PCSR = Post-construction summary report

PM = Project manager

PP = Proposed plan

RACR = Remedial action completion report

RAP = Remedial action plan

RAWP = Remedial action work plan

RD = Remedial design

ROD = Record of decision

RPM = Remedial project manager

RTC = Response to comments

SAP = Sampling and analysis plan

SWDA = Solid waste disposal area

TBD = To be determined

TCRA = Time-critical removal action

TICD = Treasure Island Community Developers

TIDA = Treasure Island Development Authority

TPH = Total petroleum hydrocarbons

TSP = Task specific plan

Water Board = Regional Water Quality Control Board

Naval Station Treasure Island Navy Field Schedule June – November 2016

Item	Activity and Investigation Area	Field	Dates	Navy RPM (Contractor)	Complete
	Site 6				
1	Remedial Action	Start:	05/02/16	Bryce Bartelma	
	Remedial Action	Finish:	07/22/16	(CE2 Kleinfelder)	
	Site 12				
2	Phase III Non-Time Critical Removal Action	Start:	05/12/15	Chris Yantos	
2	Thase iii Northine Childa Kemovai Action	Finish:	09/07/16	(CB&I)	
3	Time Critical Removal Action	Start:	06/14/16	Bryce Bartelma	
	(Gateview, Discrete Areas, Halyburton)	Finish:	01/09/17	(CE2 Kleinfelder)	
	Site 24				
	Soil Gas Data Gaps Investigation	Start:	07/13/15	Mukesh Mehta	J.
	Soil Gas Data Gaps Investigation	Finish:	05/27/16	(Trevet)	·
4	Remedial Action	Start:	07/11/16	Mukesh Mehta	
4	Remedial Action	Finish:	11/18/16	(Parsons)	
	Site 30				
	Soil Sampling and Surveys - Additional Field Work	Start:	06/03/16	Louie Cardinale	<u>,</u>
	3011 3ampling and 3driveys - Additional Held Work	Finish:	06/05/16	(CB&I)	<u> </u>
	Site 31				
5	Soil Sampling and Surveys - Additional Field Work	Start:	05/09/16	Louie Cardinale	
Ü	3011 3ampling and surveys - Additional Field Work	Finish:	08/12/16	(CB&I)	
	Site YF3				
,	Intertidal Data Gaps Sampling	Start:	09/19/16	Mukesh Mehta	
6	(Trident Probe Survey and Pore Water Collection)	Finish:	10/03/16	(SPAWARSYCEN Pacific)	
7	Intertidal Data Gaps Sampling	Start:	11/02/16	Mukesh Mehta	
/	(Onshore and Offshore Sediment Sampling)	Finish:	11/16/16	(Battelle Team)	
	Other				
	Historic Avenue N Storm Drain Removal	Start:	12/07/15	Kimberly Noble	<u></u>
	nistolic Avenue ii storiii Draiii keriioval	Finish:	06/02/16	(CB&I)	•
8	Basewide Well Decomissioning	Start:	10/03/16	Mukesh Mehta	
O	basewide weii becomissioning	Finish:	11/22/16	(TtEC)	

Abbreviations:

Field work is completeRPM Remedial project manager

TBD To be determined

Yellow shading indicates field activities that will start or finish within the next 60 days.

Grey shading indicates field activities are complete.